

Amendments to the claims (this listing replaces all prior versions):

1-23. (cancelled).

24. (currently amended) ~~A quartz plate etching apparatus;~~ An apparatus comprising:
a chamber;
~~in the chamber, a first plasma derived from a first etchant gas comprising CxF_y~~
~~molecules and a second plasma derived from a second etchant gas comprising SpF_q molecules,~~
~~x, y, p, and q being integers;~~
a quartz plate supported within the chamber and being etched by the first and second
plasmas, the quartz plate having a peripheral portion and a central portion, the peripheral portion
being at least 50 mm from the central portion;
a first plasma in the chamber derived from a first etchant gas comprising CxF_y
molecules, x and y being integers;
a second plasma in the chamber derived from a second etchant gas comprising SpF_q
molecules, p and q being integers, the first and second plasmas having a specified ratio such that
a combination of the first and second plasmas would etch a substrate at a uniform rate of etching
across the substrate, the rate of etching across the substrate to distances at least 50 mm from a
central portion of the substrate being within 1% of the rate of etching at the central portion;
a high frequency energy source coupled to the chamber energizing the first and second
etchant gases to generate the first and second plasmas; and
an inlet structure introducing the first and second etchant gases into the chamber;
~~wherein the first and second plasmas have a specified ratio such that a combination of the~~
~~first and second plasmas etch the quartz plate in which the rate of etching across the quartz plate~~
~~is within 1% of the rate of etching at the central portion of the quartz plate.~~

25. (original) The apparatus of claim 24, further comprising a flow controller for
controlling the amount of the first and second etchant gases entering the chamber.

26. (cancelled)

27. (currently amended) An etching system, comprising:

a chamber that includes a substrate having a peripheral portion and a central portion, the peripheral portion being at least 50 mm from the central portion;

a first plasma in the chamber having more negative ions than electrons; and

a second plasma in the chamber having more electrons than negative ions, the amounts of the first and second plasmas having a specified ratio such that a combination of the first and second plasmas would etch the substrate in the chamber in which the rate of etching across the substrate is within 1% of the rate of etching at a central portion of the substrate.

28. (previously presented) The etching system of claim 27 in which the first plasma is generated from C_xF_y , x and y being integers, and the second plasma is generated from at least one of sulfur fluoride, silicon fluoride, and phosphorus fluoride.

29. (previously presented) The etching system of claim 27 in which the first plasma comprises positive ions having a distribution that decreases radially from a central region of the chamber towards a peripheral region of the chamber.

30. (previously presented) The etching system of claim 27 in which the second plasma comprises positive ions, a distribution of positive ions in the second plasma increases radially from a central region of the chamber towards a peripheral region of the chamber.

31. (previously presented) The etching system of claim 30 in which the first plasma and the second plasma have a specified ratio so that a sum of the positive ions in the first plasma and the positive ions in the second plasma is substantially uniform across a substantial portion of the substrate.

32 – 41. (cancelled)

42. (currently amended) An apparatus comprising
a chamber, and
a controller configured to control relative amounts of two different types of plasma etchants in the chamber to cause substantially uniform etching across a surface to be etched in the chamber, in which the rate of etching at a peripheral portion of the surface ~~[[is]]~~ would be within 1% of the rate of etching at a central portion of the surface.

43. (currently amended) An apparatus comprising
a chamber, and
a control mechanism set to control a sum of positive ions in a first plasma and a second plasma to be substantially uniform across central and peripheral regions of a surface to be etched in the chamber, such that the rate of etching at a peripheral portion of the surface ~~[[is]]~~ would be within 1% of the rate of etching at a central portion of the surface.

44. (new) An etching system, comprising:
a chamber; and
means for etching a substrate in the chamber in which the rate of etching across the substrate to distances at least 50 mm from a central portion of the substrate is within 1% of the rate of etching at the central portion, the means comprising a first plasma and a second plasma that are derived from different etchant gases, the first and second plasmas having a specified ratio to enable uniform etching of the substrate.

45. (new) An apparatus comprising:
a first plasma in a chamber derived from a first etchant gas comprising C_xF_y molecules, x and y being integers; and
a second plasma in the chamber derived from a second etchant gas comprising $SpFq$ molecules, p and q being integers, the first and second plasmas having a specified ratio such that a combination of the first and second plasmas would etch a substrate at a uniform rate of etching

across the substrate, the rate of etching across the substrate to distances at least 50 mm from a central portion of the substrate being within 1% of the rate of etching at the central portion.

46. (new) The apparatus of claim 24, wherein the volume ratio of the first etchant gas to the second etchant gas is between about 100:1 to 5:1.

47. (new) The apparatus of claim 24, wherein the volume ratio of the first etchant gas to the second etchant gas is between about 50:1 to 10:1.

48. (new) The apparatus of claim 24, wherein the volume ratio of the first etchant gas to the second etchant gas is between about 25:1 to 15:1.

49. (new) The apparatus of claim 42, wherein the controller is configured to control the volume ratio of one of the two different types of plasma etchants to the other of the two different types of plasma etchants to be between about 100:1 to 5:1.

50. (new) The apparatus of claim 42, wherein the controller is configured to control the volume ratio of one of the two different types of plasma etchants to the other of the two different types of plasma etchants to be between about 50:1 to 10:1.

51. (new) The apparatus of claim 42, wherein the controller is configured to control the volume ratio of one of the two different types of plasma etchants to the other of the two different types of plasma etchants to be between about 25:1 to 15:1.